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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/873,568	06/04/2001	Robert L. Blake	GB 000112	4212

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EXAMINER

DEAN, RAYMOND S

ART UNIT	PAPER NUMBER
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2684

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DATE MAILED: 03/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/873,568

Applicant(s)

BLAKE ET AL.

Examiner

Raymond S Dean

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 - 5 and 10 - 19 is/are rejected.
- 7) ☒ Claim(s) 6 - 9 and 20 - 22 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 – 5 and 10 - 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martini et al. (US 6,675,015 B1) in view of Albrecht et al. (Local Computer Networks, 1999. LCN '99. Conference on, 18-20 Oct. 1999).

Regarding Claim 1, Martini teaches a communications system comprising first and second beacon devices capable of wireless message transmission and at least one portable device capable of receiving such message transmissions (Column 6 lines 40 – 58, the first and second beacon devices are the transmitter (54) and the additional transmitter (62) respectively), wherein said first beacon is arranged to broadcast a series of inquiry messages according to a first communications protocol (Column 6 lines 40 – 58) wherein said first beacon device is arranged to transmit data to said second beacon (Column 6 lines 53 – 58, there must be a notification from the first transmitter (54) to the second transmitter (62) that the connection has been established so that said second transmitter can engage in data transmissions with the portable device, the only way that this can happen is by the first transmitter (54) transmitting notification data to

the second transmitter (62) thus this is an inherent characteristic), and wherein said second beacon and portable device are configured to perform a service interaction when triggered by the second beacon (Column 6 lines 40 – 58),

Martini does not specifically teach a second beacon that receives the portable device identifier and wherein said at least one portable device is arranged to detect such inquiry messages and reply with an identifier for the portable device.

Albrecht teaches a beacon that receives the portable device identifier and wherein said at least one portable device is arranged to detect such inquiry messages and reply with an identifier for the portable device (Section 2 Paragraph 5, the master unit sends out inquiries to portable devices whose identity is unknown, said portable devices respond with an address which is the identifier thus there is an inherent detection of inquiry messages by said portable devices).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the inquiry response method taught above in Albrecht in the wireless Bluetooth system of Martini such that the second transmitter (62) will be able engage in data transmissions with the portable device that has established a connection with the first transmitter (54) through the inquiry and paging method.

Regarding Claim 2, Martini in view of Albrecht teaches all of the claimed limitations recited in Claim 1. Martini further teaches a plurality of second beacon devices (Column 6 lines 48 – 51).

Regarding Claim 4, Martini in view of Albrecht teaches all of the claimed limitations recited in Claim 1. Albrecht further teaches a beacon device that maintains

and periodically updates a list of identifiers for portable devices with which a service interaction is being performed (Figure 1, Section 2 paragraphs 5 and 6, the master unit is the beacon, the master unit is constantly aware of the modes of all of the slaves/portable devices in the piconet thus there is an inherent list of said slaves/portable devices and an inherent periodic update of a said list).

Regarding Claim 5, Albrecht teaches all of the claimed limitations recited in Claim 4. Albrecht further teaches a timer, with a beacon device being configured to remove a portable device identifier from said list if no interaction takes place for a predetermined period (Section 3.2 paragraph 6, the base station is the beacon, there is a timeout thus there is an inherent timer, the old route is deleted from the caches when the portable device is handed over to the next base station/beacon thus there is an inherent removal of said portable device identification information from the list or database of said base station).

Regarding Claim 10, Martini in view of Albrecht teaches all of the claimed limitations recited in Claim 1. Martini further teaches a first communications protocol that comprises Bluetooth messaging (Column 2 lines 37 – 42).

Martini does not specifically teach a predetermined clocked succession of frequencies with clock information for said first beacon device being included in data carried by said additional data field.

Albrecht teaches a predetermined clocked succession of frequencies with clock information for said first beacon device being included in data carried by said additional data field (Section 2 paragraphs 3 and 4, in order for the slaves to be synchronized with

the master, which is the first beacon device, the slaves must know the clock and frequency hop information, the only way that said slaves can obtain such information is through the inquiry and page packets thus said information is inherently included in a data field of said inquiry and paging packets).

Martini and Albrecht teach a wireless system that uses the Bluetooth protocol, which uses frequency hopping, thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the frequency hop method taught above in Albrecht in the wireless system of Martini.

Regarding Claim 11, Martini in view of Albrecht teaches all of the claimed limitations recited in Claim 1. Martini further teaches a device comprising a receiver capable of receiving a short – range wireless inquiry message (Column 6 lines 46 – 48, 53 – 58, Bluetooth is a short range wireless protocol, the fact that the transmitter transmits inquiry messages to the portable devices in order to establish a link implies that said portable device is capable of receiving a short – range wireless inquiry message thus this is an inherent characteristic).

Martini does not specifically teach a processing means operable to process data contained within said message and compose a response message including an identifier for the device, and transmission means configured to wirelessly transmit said composed response message to the source of the inquiry message.

Albrecht teaches a processing means operable to process data contained within said message and compose a response message including an identifier for the device (Section 2 Paragraph 5, the slave responds to the inquiry message with an address, in

order for the slave to respond to the inquiry said slave must process the inquiry data thus this is an inherent characteristic), and transmission means configured to wirelessly transmit said composed response message to the source of the inquiry message (Section 2 Paragraph 5, the slave responds to the inquiry message with an address which said slave transmits wirelessly).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use inquiry response method taught above in Albrecht in the portable unit of Martini such that said portable unit would be configured to establish a connection with the first transmitter (54) thus allowing data transmissions to occur with the second transmitter (62).

Regarding Claim 12, Martini in view of Albrecht teaches all of the claimed limitations recited in Claim 1. Martini further teaches an infrastructure comprising first and second beacon devices and an interconnection there between (Column 6 lines 40 – 58, the first and second beacon devices are the transmitter (54) and the additional transmitter (62) respectively, there must be a transmission of notification of link establishment from the first transmitter (54) to the second transmitter (62) thus there is an inherent interconnection), said beacon devices being capable of wireless message transmission to said at least one portable device (Column 6 lines 40 – 58), wherein said first beacon is operable to broadcast a series of inquiry messages according to a first communications protocol (Column 6 lines 40 – 58), to transmit data to said second beacon (Column 6 lines 53 – 58, there must be a notification from the first transmitter (54) to the second transmitter (62) that the connection has been established so that said

second transmitter can engage in data transmissions with the portable device, the only way that this can happen is by the first transmitter (54) transmitting notification data to the second transmitter (62) thus this is an inherent characteristic), and wherein said second beacon is configured to perform a service interaction with said portable device when triggered by the second beacon (Column 6 lines 40 – 58).

Martini does not specifically teach detecting any response messages containing a portable device identifier for said portable device.

Albrecht teaches detecting any response messages containing a portable device identifier for said portable device (Section 2 Paragraph 5, the portable device responds to the inquiry with the address which is the identifier, the master unit uses said address in order to connect with the portable device thus there is an inherent detection of any response messages from said portable device).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the inquiry response detection method taught above in Albrecht in the wireless Bluetooth system of Martini such that the second transmitter (62) will be able to engage in data transmissions with the portable device that has established a connection with the first transmitter (54) through the inquiry and paging method.

Regarding Claim 14, Martini in view of Albrecht teaches all of the claimed limitations recited in Claim 12. Martini further teaches a plurality of second beacon devices (Column 6 lines 48 – 51).

Regarding Claim 15, Martini teaches all of the claimed limitations recited in Claim 14. Martini further teaches a message management means operable to initiate and effect handover of an ongoing message transmission session from one of said plurality of second beacons to another (Column 7 lines 15 – 37).

Regarding Claim 16, Martini in view of Albrecht teaches all of the claimed limitations recited in Claim 12. Martini further teaches a plurality of said first beacon devices (Column 6 lines 51 – 52).

Regarding Claim 17, Martini teaches a method for enabling the user of a portable communications device to perform a service interaction with a beacon device in an environment containing at least first and second beacon devices capable of wireless message (Column 6 lines 40 – 58, the first and second beacon devices are the transmitter (54) and the additional transmitter (62) respectively), wherein a first beacon broadcasts a series of inquiry messages according to a first communications protocol (Column 6 lines 40 – 58), the first beacon device transmits data to said second beacon (Column 6 lines 53 – 58, there must be a notification from the first transmitter (54) to the second transmitter (62) that the connection has been established so that said second transmitter can engage in data transmissions with the portable device, the only way that this can happen is by the first transmitter (54) transmitting notification data to the second transmitter (62) thus this is an inherent characteristic), and the second beacon and portable device perform said service interaction when triggered by the second beacon (Column 6 lines 40 – 58).

Martini does not specifically teach a portable device that detects such inquiry messages and replies with an identifier for the portable device.

Albrecht teaches a portable device that detects such inquiry messages and replies with an identifier for the portable device (Section 2 Paragraph 5, the master unit sends out inquiries to portable devices whose identity is unknown, said portable devices respond with an address which is the identifier thus there is an inherent detection of inquiry messages by said portable devices).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the inquiry response method taught above in Albrecht in the wireless Bluetooth system of Martini such that the second transmitter (62) will be able to engage in data transmissions with the portable device that has established a connection with the first transmitter (54) through the inquiry and paging method.

Regarding Claim 18, Martini in view of Albrecht teaches all of the claimed limitations recited in Claim 17. Martini does not specifically teach a second beacon device that maintains and periodically updates a list of identifiers for portable devices with which a service interaction is being performed.

Albrecht teaches a beacon device that maintains and periodically updates a list of identifiers for portable devices with which a service interaction is being performed (Figure 1, Section 2 paragraphs 5 and 6, the master unit is the beacon, the master unit is constantly aware of the modes of all of the slaves/portable devices in the piconet thus there is an inherent list of said slaves/portable devices and an inherent periodic update of a said list).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the periodic updating method taught in Albrecht in the wireless Bluetooth system of Martini such that the second beacon of Martini will be constantly abreast of the status of the portable devices thus allowing efficient data transmissions between said second beacon and said portable devices.

Regarding Claim 19, Martini in view of Albrecht teaches all of the claimed limitations recited in Claim 18. Albrecht further teaches a beacon device that removes a portable device identifier from said list if no interaction takes place for a predetermined period (Section 3.2 paragraph 6, the base station is the beacon, the old route is deleted from the caches when the portable device is handed over to the next base station/beacon thus there is an inherent removal of said portable device identification information from the list or database of the base station).

Regarding Claim 22, Martini in view of Rune teaches all of the claimed limitations recited in Claim 17. Rune further teaches wherein said inquiry messages are each in the form of a plurality of predetermined data fields arranged according to said first communications protocol (Figure 2, Section 0012), wherein the first beacon device adds to each inquiry message prior to transmission an additional data field carrying broadcast message data (Sections 0096 - 0107, the inquiry packet can be modified or extended to carry additional information), and wherein the portable device receives the transmitted inquiry messages and reads the broadcast data from said additional data field (Sections 0096 - 0107, the portable units that respond to the modified inquiry packet would inherently read data from the additional data field).

3. Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martini et al. (US 6,675,015 B1) in view of Albrecht et al. (Local Computer Networks, 1999. LCN '99. Conference on, 18-20 Oct. 1999) and in further view of Haartsen (Personal Communications, IEEE [see also IEEE Wireless Communications] Volume: 7, Issue: 1, Feb. 2000).

Regarding Claim 3, Martini in view of Albrecht teaches all of the claimed limitations recited in Claim 1. Martini further teaches a channel linking said first and second beacon devices (Column 6 lines 53 – 58, there must be a notification from the first transmitter (54) to the second transmitter (62) that the connection has been established so that said second transmitter can engage in data transmissions with the portable device, the only way that this can happen is by the first transmitter (54) transmitting notification data to the second transmitter (62) thus there is an inherent data link).

Martini in view of Albrecht does not specifically teach a secure data channel linking said first and second beacon devices.

Haartsen teaches a secure data channel (Page 35 Section entitled "Security", the links between the devices are secure).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the security procedure taught in Haartsen in the wireless Bluetooth system taught by Martini in view of Albrecht such that eavesdropping and

unauthorized usage of the Bluetooth wireless links of Martini in view of Albrecht is prevented.

Regarding Claim 13, Martini in view of Albrecht teaches all of the claimed limitations recited in Claim 12. Martini further teaches a channel linking said first and second beacon devices (Column 6 lines 53 – 58, there must be a notification from the first transmitter (54) to the second transmitter (62) that the connection has been established so that said second transmitter can engage in data transmissions with the portable device, the only way that this can happen is by the first transmitter (54) transmitting notification data to the second transmitter (62) thus there is an inherent data link).

Martini in view of Albrecht does not specifically teach a secure data channel linking said first and second beacon devices.

Haartsen teaches a secure data channel (Page 35 Section entitled "Security", the links between the devices are secure).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the security procedure taught in Haartsen in the wireless Bluetooth system taught by Martini in view of Albrecht such that eavesdropping and unauthorized usage of the Bluetooth wireless links of Martini in view of Albrecht is prevented.

Allowable Subject Matter

4. Claims 6 - 9, 20 - 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Regarding Claims 6 and 20, Martini in view of Rune and in further view of Albrecht teaches a second beacon device that removes a portable device identifier from a list of portable device identifiers but the prior art of record fails to specifically show a second beacon device that removes a portable device identifier from a list of portable device identifiers if a duplicate copy of said identifier is received from the first beacon device.

Regarding Claims 7 and 21, Martini in view of Rune and in further view of Albrecht teaches a second beacon device that removes a portable device identifier from a list of portable device identifiers but the prior art of record fails to specifically show a second beacon device that is configured to remove a portable device identifier from a list of portable identifiers if an interaction includes receipt of a predetermined message requesting removal from said portable device.

Regarding Claims 8, 9, and 22, It is well known in the art that the Bluetooth protocol has a standard format for packets used in data transmission with said packets having data fields arranged according to said protocol but the prior art of record fails to specifically show a beacon device that is arranged to add to each inquiry message prior to transmission an additional data field, and wherein at least one portable device is arranged to receive the transmitted inquiry messages and read data from said additional

data field. Claim 9 depends on Claim 8 therefore examiner gives same reason as set forth above.

Conclusion

5. Any inquiry concerning this communication should be directed to Raymond S. Dean at telephone number (703) 305-8998.

If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung, can be reached at (703) 308-7745. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314 (for Technology center 2600 only)

Hand – delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist). Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377




NAY MAUNG
SUPERVISORY PATENT EXAMINER